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House Committee on Homeland Security
Subcommittee on Transportation Security and Infrastructure Protection
Hearing on "An Assessment of Checkpoint Security:
Are Our Airports Keeping Passengers Safe?"
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311 Cannon House Office Building

I. Introduction to Smiths Detection's Role in U.S. Homeland Security:

Good afternoon, Chairwoman Jackson-Lee, Ranking Member Dent, and members of the Subcommittee. My name is Hasbrouck "Brook" Miller, and I am Vice President for Government Affairs for Smiths Detection, Incorporated.

I sincerely appreciate your invitation to testify here today on aviation checkpoint security. This is always a critical subject for Smiths Detection, this Subcommittee, and the Transportation Security Administration ("TSA"), and it is one that has rightly garnered increased media attention after the attempting bombing on Northwest Airlines Flight 253 on December 25th.

Before I delve into how the private-sector, the U.S. government, and foreign governments have addressed and can address the vital issues the Christmas Day attack brought back to the forefront, I thought I would start by providing some background on Smiths Detection. Our company is part of a set of several technology and engineering enterprises known collectively as Smiths Group. Smiths Detection (or "Smiths," for short) specializes in making best-in-class detection-oriented products to help bolster our nation's homeland security and defense capabilities. Smiths is headquartered in the United Kingdom.

Smiths has customers worldwide, approximately 90% of which are national governments. The U.S. government is by far our largest customer. The U.S. Department of Defense has procured several types of chemical detection equipment from Smiths to help protect our troops in the field.

The Department of Homeland Security ("DHS") is an equally significant partner of Smiths. First, we work closely with the Science & Technology Directorate ("S&T") to develop state-of-the-art detection technologies. When we bring those technologies to market, the Transportation Security Administration ("TSA"), Customs and Border Protection ("CBP"), the Federal Protective Service ("FPS"), the Secret Service and Capitol Police and other DHS components, not to mention DHS transit authority and first-responder grant recipients at the state and local level, procure detection equipment from Smiths to augment our nation's aviation, mass transit, port, and border security.

II. Smiths Supports a Multi-Layered Approach to Checkpoint Security:

Many airports in the United States and abroad use similar Smiths equipment to scan carry-on bags at aviation security checkpoints, which brings us to the subject of today's hearing. To

maximize our aviation security while keeping passengers moving and protecting their privacy, Smiths strongly supports a multi-layered approach at the screening checkpoint.

Members of the Subcommittee, you have heard other speakers today mention the importance of one of those layers: collecting, coordinating, distilling, and disseminating actionable intelligence to and within DHS, including to the TSA personnel on the front lines. We at Smiths could not agree more.

Another vital layer is the human layer. Simply put, Smiths views those TSOs on the front lines as irreplaceable. Madam Chair and Congressman Dent, we share in your commitment to ensuring that TSA personnel are recognized for the critical work they do, including by working hand-in-glove with technologies every day, and that they receive the best possible training to do it. Furthermore, to help guide their efforts and ours, Smiths also shares your desire for the Senate to confirm a TSA Administrator as soon as possible.

Let me now turn to the layers of checkpoint security Smiths knows best: employing the best possible technologies to help detect anomalies and potential threats on passengers and in carry-on bags.

III. Detecting Threats in Carry-On Baggage through Advanced Technology (AT):

Before examining the headline-grabbing issue of Advanced Imaging Technology (AIT) "body scanners" and other aspects of on-body detection, I would like to mention the innovations that DHS, Smiths, and other industry members have undertaken recently with regard to examining carry-on items. Specifically, Advanced Technology (AT) systems represents a significant leap forward for screening carry-ons, as part of a multi-layered approach to checkpoint security.

For the last several years, S&T and TSA have worked with Smiths and others to develop the next-generation of bag-scanning technology, known as AT. Smiths' AT equipment is known as the "atix," a type of AT equipment that uniquely allows for multiple-angled views of each carry-on bag. Since early 2008, TSA has deployed the atix in multiple U.S. airports, including Baltimore-Washington, Denver, and Albuquerque.

In Smiths' view, AT and atix offer many new benefits compared to the alternatives, which include previous-generation x-ray technologies and more expensive Computer Tomography (CT). In fact, descriptions of AT from TSA itself may say it best:

> "Advantages of AT X-ray include a greatly enhanced image with the ability to target novel threat items resulting in fewer bag checks and faster throughput, and the ability to upgrade the system with enhanced algorithms…."[1]
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> "…smaller than previously available explosive detection systems."[2]
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> "AT systems are highly cost-effective.…AT training is relatively easy…."[3]

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[1] www.tsa.gov/press/releases/2008/0715.shtm

[2] *Id.*

[3] http://www.tsa.gov/approach/tech/advanced_technology.shtm

By the end of 2009, TSA was scheduled to have deployed approximately 900 AT units for the approximately 2,200 commercial aviation checkpoints in the United States. Smiths strongly supports TSA continuing to deploy ATs to examine carry-on bags. As part of its deployment plan, Madam Chairwoman and Ranking Member Dent, we trust you will join us in looking forward to TSA deploying AT units that maximize the chances of detection and deterrence of carry-on threats.

Smiths is also excited about our work with S&T and TSA to develop and deploy another form of Advanced Technology: Bottle Liquid Scanners ("BLS"). TSA recently decided to procure some of Smiths' portable "RespondeR" BLS units, which are manufactured in Danbury, Connecticut. The RespondeR uses spectrometry technology to look through passengers' liquid containers without opening or damaging them, in order to identify and distinguish safe liquids from those containing threatening substances. BLS will increase both convenience and safety for the traveling public.

IV. Ensuring Security and Privacy with Advanced Imaging Technology (AIT) and Trace:

IV.A. Ensuring Security:

The final aspect of multi-layered checkpoint security, Madam Chairwoman and Ranking Member Dent, is the one that may have received the most attention in the aftermath of the attempted attack on Northwest Flight 253 on December 25th: scanning the passenger for on-body threats, including the use of Advanced Imaging Technology (AIT). In fact, on January 7th, 2010, President Obama himself called for "…greater use of the advanced explosive detection technologies that we already have, including imaging technology, and working aggressively…to develop and deploy the next generation of screening technologies."

Smiths believes the Administration's current and future deployments of AIT, also known as Whole Body Imaging or "body scanning," are a vital part of a comprehensive, layered detection capability. We particularly support TSA's new approach of combining AIT deployments with increased use of other technologies that also can identify non-metallic, on-body threats at the airport checkpoint, such as trace explosives detectors.

While AIT and trace are not full-proof, nothing by itself is, they significantly increase the chances of detecting on-body plastic explosives, such as the PETN compound allegedly used by Umar Farouk Abdulmutallab. Those non-metallic threats are simply undetectable by conventional metal detectors.

As a result, Smiths strongly supports TSA's deployment schedule for AIT. In 2009, TSA deployed forty millimeter wave AIT systems, at six U.S. airports for primary screening and at the other thirteen as an alternative to pat-downs for secondary or random screening. TSA plans to deploy approximately 450 AITs, using millimeter wave or the alternative backscatter technology, in Fiscal Year 2010. In its FY11 budget request, DHS has called for $214.7 million to fund the procurement of 500 additional AIT units. If Congress funds the FY11 request, TSA is expected to have ordered approximately 1000 AITs by the end of FY11, which would cover almost half of the approximately 2,200 U.S. checkpoints. Industry is fully capable of meeting, or even exceeding, that deployment schedule, and Smiths supports the Administration's request.

Smiths also supports DHS's $60 million request for portable trace detection equipment. Trace can augment checkpoint security by detecting explosive particles on travelers' hands, clothing, or luggage, since explosives can be sticky enough to remain there, even after repeated washing.

Smiths also encourages DHS and the Department of State to continue their important efforts to foster international standardization on and deployment of AIT, trace, and other checkpoint technologies and practices. Fortunately, the United Kingdom, the Netherlands, Ireland, and other countries are partnering with the Administration in this effort, but it is clearly in its initial stages.

As a company with a global presence, Smiths knows all too well that many airports, including those hosting U.S.-bound flights and especially in the developing world, have a long way to go to match up to the steps that DHS is taking in the United States. It may be time to examine the possibility of further U.S. assistance to spur upgrades in the developing world's security infrastructure.

IV.B. Smiths' "eqo," Next-Generation AIT:

Madam Chairwoman, let me turn to Smiths Detection's specific work on AIT. Smiths' AIT product is known as the "eqo," which we developed after licensing the basic technology from Argonne National Laboratory several years ago. President Obama was right in his January 7th speech: partnering with the National Labs can produce results. The end result for Smiths in this case is the eqo, a next-generation AIT system that uses safe millimeter waves to generate three-dimensional images of a person's body, in order to look for anomalies such as explosives, weapons, drugs, or other contraband.

The eqo possesses a couple of key attributes that distinguish it as a next-generation AIT. First, as a flat-panel system with a metal-detector-like arch, the eqo is small and checkpoint-friendly. This is an especially important feature for smaller airports where real estate is tight. Second, the eqo generates real-time, moving images, which allow for better angles to detect anomalies. Third, those real-time images, by definition, require no downloading time. Smiths estimates this development will lead to faster throughput when the eqo undergoes field testing in U.S. airports.

Prior to field testing, the Transportation Security Lab ("TSL") in Atlantic City has been testing the eqo in the lab for several months. Madam Chairwoman and Ranking Member Dent, we would like to find out more details about DHS's timeline for its lab testing and subsequent field testing of the eqo.

IV.C. Ensuring Privacy:

At the same time, members of the Subcommittee, while Smiths believes that AIT brings an important new technological capability to the airport checkpoint, we also believe that homeland security and personal privacy are not mutually exclusive concepts. The traveling public deserves to be assured the AIT equipment used by the TSA is capable of guarding their privacy *and* their security simultaneously. Therefore, Smiths also supports the robust dissemination, or even the codification, of TSA's privacy protections for AIT. These protections are already in place, but not always widely publicized or consistently implemented. Again, the traveling public deserves no less.

Smiths is encouraged that travelers become increasingly comfortable with AIT when they experience it for themselves. According to TSA, over 98% of passengers who have experienced AITs prefer them to alternative screening methods.[4] In comparison, a January Gallup/USA Today poll finds 78% of U.S. all air travelers, including those who have not undergone AIT screening, approve of the AIT concept.[5]

Still, Smiths wants to ensure passengers are as informed as possible when using AIT technology. Therefore, to supplement the efforts of TSA and the Congress, Smiths adheres to its own "Seven Points of Privacy" when discussing the use of AIT:

1) AIT equipment should blur all facial features on its images. TSA and the Smiths eqo take this approach.

2) TSA officers should view AIT images at remote locations, where no cameras or cell phones are permitted. AIT equipment should transmit all images to that remote location via a secure connection. TSA and the eqo take this approach

3) TSA officers viewing the images from that location should talk by wireless headset to TSA personnel at the checkpoint to clear the traveler if nothing suspect appears on the image. TSA and the eqo take this approach.

4) TSA should have sufficient resources to support a policy that would require male TSA personnel to view male images and female personnel to view female images. TSA does not currently implement this policy.

5) TSA should disable AIT equipment for field use to make it incapable of saving, e-mailing, or printing any images. TSA and the eqo take this approach, although TSA understandably temporarily enables AITs to save images during earlier off-airport training of TSA personnel.

6) AIT equipment should automatically and irrevocably delete each image after TSA clears the passenger. TSA and the eqo take this approach.

7) TSA should provide travelers with an alternative for primary screening: a combination of a metal detector, trace detection, and a pat-down. TSA and S&T should partner with industry to continue to develop computer-driven auto-detection capabilities and to provide other comparable technological alternatives. DHS and Smiths take this approach.

However, as the members of the Subcommittee know, a floor amendment added last June to the House TSA reauthorization bill (H.R. 2200), if enacted into law, would bar AIT from serving as a primary screening option. The language would permit AIT to be used only "for-cause" secondary screening. Smiths views the amendment's approach as problematic. Since metal detectors cannot detect plastic explosives or other non-metallic weapons, TSA may never pull aside for secondary screening a potential assailant, especially a professional who does not appear agitated. That could leave us with a problem comparable to the one we faced on Christmas when, as has been reported, Mr. Abdulmutallab never went through the AITs deployed at Amsterdam's Schiphol Airport.

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[4] http://www.tsa.gov/approach/tech/imaging_technology.shtm

[5] http://www.usatoday.com/travel/flights/2010-01-11-security-poll_N.htm

Instead, Smiths urges the Congress to advance alternative language to enhance security, protect privacy, and codify TSA policy on AIT. We support legislation to encourage comprehensive deployments of multi-layered, advanced technologies, with passengers choosing among suitable options for primary screening.

Chairwoman Jackson-Lee, Ranking Member Dent, and members of the Subcommittee, thank you very much for the opportunity to testify. I look forward to your questions.